What is claimed is:

1. A semiconductor device comprising:

an insulating gate field effect transistor comprising a plurality of transistor cells which are arranged in a semiconductor layer and connected in parallel; and

a protective diode connected between a gate and a source of said insulating gate field effect transistor to break down an input of a constant voltage or more applied between said gate and said source,

wherein said protective diode is formed as a bidirectional diode in which one or more ring-shaped p-type layers and one or more ring-shaped n-type layers are flatly and alternately provided on an insulating layer at a peripheral portion than said transistor cells, metal films in ring-shaped contacting with the most inner layer and the most outer layer of said p-type layers or said n-type layers are formed respectively, and each of said metal films is successively formed with either of a source wiring or a gate electrode pad consisting of a metal film, respectively.

2. The semiconductor device of claim 1, wherein one ring-shaped metal film of said metal films provided so as to contact with said the most outer layer is a gate wiring successively formed with said gate electrode pad, and the other metal film of said metal films provided so as to contact with said most inner layer is said source wiring.

3. The semiconductor device of claim 2, wherein said one ring-shaped metal film is a gate wiring which has gate

connecting potions so as to connect to gate electrodes of said transistor cells with partial striding over said protective diode, and said gate connecting portions and source connecting portions of said source wiring which are contacted with said most inner layer are alternately formed in plan view.

4. The semiconductor device of claims 1, 2 or 3, wherein said p-type layers and said n-type layers are made of at least one selected from polysilicon, amorphous silicon, single-crystal silicon on a insulating layer, SiC and SiGe.

5. The semiconductor device of any one of claims 1 to 4, wherein said p-type layers and said n-type layers are formed so as to have the same width and the same concentration of impurities, in the same conductivity type, respectively.

6. The semiconductor device of any one of claims 1 to 5, wherein a diffusion region having a difference conductivity type from that of said semiconductor layer is formed on the closest side to said protective diode of said transistor cells arranged, and said source wiring contacted to the most inner layer of said protective diode is contacted to said diffusion region.

7. A semiconductor device according to claim 1, wherein said p-type layers and said n-type layers comprising said bidirectional diode are not flatly formed but are alternately formed in a height direction.

connecting potions so as to connect to gate electrodes of said transistor cells with partial striding over said protective diode, and said gate connecting portions and source connecting portions of said source wiring which are contacted with said most inner layer are alternately formed in plan view.

4. The semiconductor device of claims 1, 2 or 3, wherein said p-type layers and said n-type layers are made of at least one selected from polysilicon, amorphous silicon, single-crystal silicon on a insulating layer, SiC and SiGe.

5. The semiconductor device of any one of claims 1 to 4, wherein said p-type layers and said n-type layers are formed so as to have the same width and the same concentration of impurities, in the same conductivity type, respectively.

6. The semiconductor device of any one of claims 1 to 5, wherein a diffusion region having a difference conductivity type from that of said semiconductor layer is formed on the closest side to said protective diode of said transistor cells arranged, and said source wiring contacted to the most inner layer of said protective diode is contacted to said diffusion region.

7. A semiconductor device according to claim 1, wherein said p-type layers and said n-type layers comprising said bidirectional diode are not flatly formed but are alternately formed in a height direction.